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ABSTRACT

We explore the effects of local ethnic and religious diversity on individual donations to private charities. Using 10-year neighborhood-level panels derived from personal tax records in Canada, we find that diversity has a detrimental effect on charitable donations. A 10 percentage point increase in ethnic diversity reduces donations by 14%, and a 10 percentage point increase in religious diversity reduces donations by 10%. The ethnic diversity effect is driven by a within-group disposition among non-minorities, and is most evident in high income, but low education areas. The religious diversity effect is driven by a within-group disposition among Catholics, and is concentrated in high income and high education areas. Despite these large effects on amount donated, we find no evidence that increasing diversity affects the fraction of households that donate. Over the period studied, ethnic diversity rises by 6 percentage points and religious diversity rises by 4 percentage points; our results suggest that charities receive about 12% less in total donations. As areas like North America continue to grow more diverse over time, our results imply that these demographic changes may have significant implications for the charitable sector.

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I - Introduction

Diversity is increasingly a fact in urban centers across North America and Europe, and is often lauded as a virtue in and of itself. Recent research suggests, however, that despite other potential positive benefits, diversity appears to dilute support for publicly funded goods and services. Ethnically diverse communities appear to spend less on schools (Alesina, Baqir, Easterly, 1999 & 2000; Poterba, 1997, Goldin & Katz, 1999), less on roads and hospitals (Alesina, Baqir, Easterly, 1999 & 2000), and to have lower Census form completion rates (Vigdor, 2004).

Does a decrease in support for publicly provided goods indicate a similar decline in private provision of public goods, like local charitable services? Using standard models of group affiliation (Alesina and La Ferrara, 2000), the prediction is not clear. If people prefer to sort into social groups that are similar to themselves in terms of ethnicity, religion, or income, then increased diversity may mean that individuals are more likely to become increasingly willing to give to charitable causes that benefit their own group, such as local religious organizations or neighborhood food banks. Alternatively, if the charities are seen as helping those outside their group, then the same insular feelings that lead to less support for publicly provided goods may pervade attitudes toward giving to private charities as well.

We study the effect of ethnic and religious diversity on individuals' donations to private charities. We use aggregated data on charitable donations derived from Canadian tax records linked to Census data over 10 year time periods. Canada is an ideal place to study questions about diversity. First, Canada is one of the world's most diverse nations. It actively promotes multiculturalism and is more open to immigration than most developed nations. Second, the data from the charitable sector in Canada are perhaps the most complete and precise data on charitable organizations available, updated annually. Third, the Canadian Census is collected once every five years, information on ethnicity and religion is detailed, and data can be linked relatively easily over time. Moreover, the Census areas are

relatively small. As a result, key information needed to study diversity is both more detailed and more frequently updated than data from other countries, like in the United States.

Our empirical model is based on Vigdor (2002, 2004), where community-level regressions are an aggregated version of an individual-level model with donations modeled as a function of a person's own ethnic or religious group share of the population. The advantage of this approach is that we can make statements about average individual behavior even though we use aggregated data. Furthermore, as we show below it provides a natural motivation for using a Fragmentation Index (FI) to measure diversity. This measure is useful because it is widely used in the literature and also because it is easily interpreted as the probability that any two randomly-selected individuals in the community belong to different groups.

The average adult in our sample donates almost $200 per year. We find that increasing the ethnic FI by 10 percentage points reduces the average donation per adult by roughly $27 per year, a 14% reduction. By contrast, we find no statistically significant relationship between changes in the ethnic FI and the fraction of households that make a donation. Ethnic diversity appears, therefore, to affect the intensive rather than extensive margin. Looking deeper into which groups drive this effect, we find that non-minorities contribute roughly $92 more per adult when their group share increases by 10 percentage points in the community, and Blacks contribute $390 more for the same increase in their group share. By contrast, East Asians contribute $111 less per adult when their group share increases by 10 percentage points. Finally, the effects are strongest in high income and low education communities.

Turning to religious diversity, a 10 percentage point increase in the FI reduces contributions by about $20 per adult per year, a 10% reduction, though this estimate is noisy. Catholics increase their donations by $69 per adult when their share in the population rises by 10 percentage points. We again find no evidence that religious diversity affects the fraction of households that donate.

In sum, our results indicate that the deleterious effects of diversity on public sector provision of goods extends to privately provided public goods as well. Increases in ethnic and religious diversity lead to significant declines in charitable giving in the urban Canadian areas in our sample. Over the ten years of our study, ethnic diversity increased by six percentage points, and religious diversity by four percentage points. Our estimates would suggest that, due to the negative effects of diversity on giving, the charities we study receive twelve percent less in donations.

II – Existing Literature

Many studies on diversity focus on the relationship between diversity and the amount or distribution of public spending by governments or, more recently, on contributions or attitudes towards activities or goods that generate public benefits (See reviews by Alesina and La Ferrara, 2005, Stichnoth and Van der Straeten, 2009). The main conclusion from the literature is that diversity reduces publicly provided goods, both across countries and across communities within a country (mainly the United States). Ethnically diverse communities are found to spend less on schools (Alesina, Baqir, Easterly, 1999 & 2000; Poterba, 1997, Goldin & Katz, 1999), less on roads (Alesina, Baqir, Easterly, 1999 & 2000), and less on social programs in general as a fraction of GDP (Alesina, Glaeser, and Sacerdote, 2001). One exception is that Cutler et al. (1993) find that changes in state-level demographic characteristics have a negative effect on public spending, but at the county level the effect is positive.

A related literature also finds that diversity has a negative impact on individual behavior when there are public benefits involved. In racially or ethnically heterogeneous communities, involvement in social activities is lower (Alesina and La Ferrara, 2000), people are less likely to fill out census forms (Vigdor, 2004), they contribute less to schools through voluntary fundraising events (Miguel and Gugerty, 2005), and contribute less to community organizations (Okten and Osili, 2004). There are several explanations offered for this effect. If different groups have different tastes or agendas for

public spending, then this disagreement may make it more difficult to raise the funds necessary to provide those goods, and may make the goods themselves more costly[1] (such as multilingual education), and so overall provision is lower (Alesina et al. 1999). Other researchers have suggested that individuals may be less willing to contribute to a good with public benefits if those benefits accrue to other groups besides their own. There may be mistrust across groups (Alesina and La Ferrara, 2002, Fershtman and Gneezy, 2001) or pro-social within-group norms that are not easily enforceable across groups (Habyarimana et al., 2007).

Several studies focus specifically on the relationship between diversity and altruistic behavior. Hungerman (2009) finds evidence that charitable spending by all-white church congregations is more sensitive to increases in the percent of the local community that is Black compared to more diverse congregations. In an interesting contrast, Hungerman (2008) finds that government spending on charities is less likely to crowd out charitable spending by United Methodist Churches in more ethnically diverse communities. Experimental evidence by Fong and Luttmer (2009) shows that giving to Hurricane Katrina victims is higher when the giver and recipient have the same racial background, but there is no effect of race on the decision to give. In a different experiment, Fong and Luttmer (2011) found that while non-Black participants view Black individuals as less worthy of charity, it did not translate into less giving.

III – Empirical Strategy

We are able to use our data to potentially draw shaper conclusions than prior studies. First, we are able to consider a broader set of charities than churches alone. Second, U.S.-based studies are limited by the racial categories available in the Census: Black, White, Hispanic, American Indian, and

[1] A nice example from Jackson (2010) is a fragmented community where some individuals want to provide public education in one language, and other individuals want to provide it in another. It may be more costly to devise a system where education is delivered in multiple languages compared to a more homogeneous community that funds education in one language.

Asian/Pacific Islander. By contrast, the Canadian Census data have a broader set of groups available. Third, Canada collects very comprehensive religious affiliation in the Census every 10 years, whereas U.S. Census data has no measure for religion.

Our empirical analysis is based on Vigdor (2002, 2004), who builds a community-level model by aggregating an individual-level model. The main advantages of this exercise are that it provides a behavioral interpretation to the coefficients we get from the community-level model, and motivates the use of a Fragmentation Index (FI), which is the most common way to measure diversity.

Suppose that the amount individual *i* in group *g* from community *c* at time *t* donates to charity depends on the fraction of the community members who are in the same group:

$$donation_{igct} = \alpha_g + \beta_g share_{gct} + \delta x_{igct} + \theta z_{ct} + \varepsilon_{igct}$$

where $donation_{igct}$ is an individual's donation to any charity in dollars, and $share_{gct}$ is the share of group *g* in the population in community *c* at time *t*. Vigdor (2002) calls β_g the within-group affinity, because it measures the extra amount a person is willing to donate when their group's share in the population increases. The coefficient α_g measures each group's baseline contribution level. The variables in x_{igct} are individual-level factors affecting donations, such as income, and z_{ct} are community-level factors that may or may not vary over time.

Aggregating to the community-year level, we get

$$\overline{donation}_{ct} = \sum_{g=1}^{G} \alpha_g share_{gct} + \sum_{g=1}^{G} \beta_g share_{gct}^2 + \delta \bar{x}_{ct} + \theta z_{ct} + \bar{\varepsilon}_{ct}.$$

The overbars indicate community-level weighted averages at time *t*, where the weights are the group shares in the community. In the aggregate, community-level donations are a function of the shares and

the squared shares, where the baseline and affinity effects are the coefficients on those shares. Use of the FI as a regressor is motivated by restricting all of the squared shares to have the same effect,

$$\overline{donation}_{ct} = \sum_{g=1}^{G} \alpha_g share_{gct} + \beta \sum_{g=1}^{G} share_{gct}^2 + \delta \bar{x}_{ct} + \theta z_{ct} + \bar{\varepsilon}_{ct}$$

The FI is $1 - (\sum_{g=1}^{G} share_{gct}^2)$, so we can interpret $-\beta$ as the effect of increasing heterogeneity on donations. It measures the average effect of the individual squared shares. In practice, we estimate models with and without the restriction that the squared shares have the same effect. In the regressions where we restrict the coefficients on the squared shares to be the same we will use the FI as the main independent variable (rather than the sum of the squared shares) for interpretation purposes. Note that because aggregation creates heteroskedastic errors, we use standard errors that are heteroskedasticity robust and clustered at the community level.[2]

We control for the time varying factors in $\bar{x}_{ct}$ and z_{ct} using data from the Census on the variables most likely to be related to donations (discussed below). Additionally, we control for time-invariant community factors in z_{ct} with a set of community-level fixed effects. Our identifying restrictions, therefore, are that the controls account for all time-varying factors that are related to both diversity and donations, and any remaining unobservable measures are controlled adequately through community-level fixed effects. For example there may be fundamental unobservable differences between neighborhoods in Toronto and Kitchener in terms of both their diversity and charitable nature that do not change over time; the fixed effects will control for these differences. One remaining issue for identification is sorting across neighborhoods. Since our use of community fixed effects should absorb most of the effects of sorting, we can maintain identification as long as there is no significant migration based on charitableness of communities during our sample period. In particular, if more

[2] Also note that all regressions are weighted by the adult population size.

charitable communities attract more diverse populations, then or estimates will be biased toward finding a positive relationship between diversity and donations. As we show later, this is a minor concern as the data does not suggest migration of this sort.

IV – Data

In this section we report the sources of our data, how we selected the sample for analysis, and provide summary statistics for the observations we analyze.

IV.A – Data Description

Data on donations come from the Summary of Charitable Donors, produced by Statistics Canada. The dataset contains information on yearly total amounts contributed by residential households, and number of contributors to charity aggregated to the Forward Sortation Area (FSA) level (discussed below) from individual tax records.[3] Data at this level of aggregation are only available for FSAs in urban areas.[4] We extract information on total amount contributed and total number of contributors to registered charities for tax years 1991-2006. Registered charities include regular charitable organizations providing any type of service, but also amateur athletic organizations, universities inside and outside of Canada, tax exempt housing corporations in Canada, municipalities, the United Nations, and charities outside of Canada that have been given a gift by the Government of Canada (Statistics Canada, 2007).

[3] Specifically, information is based on line 340 of T1 federal tax forms.

[4] Statistics Canada produces the charitable donors data in such a way that users can aggregate to different levels, including the city level. Because some FSAs straddle city borders, sometimes our data splits an FSA's observation between all cities within its border in a given year. In creating our sample, we simply added the donations across cities within an FSA boundary in a given year. It is possible, however, that if a city within an FSA is very small, Statistics Canada could have suppressed its data. To check whether the results were robust to excluding these areas, we reran all regressions eliminating FSAs that straddled city borders (about 20% of the observations), and the results were very similar to those presented in the manuscript. One notable exception is that the coefficient on the Religion Fragmentation Index in Table IX becomes statistically significant, at roughly the same magnitude.

From these data we create our two main outcome variables. First is the *average donation per adult*, which we compute by dividing total donations by the adult (15+) population in each year.[5] We also divide number of charitable donors by the number of households to create our second outcome, the *fraction of households who donate*. We divide by the number of households instead of the number of individuals because of the tax treatment of charitable donations. Charity tax credits are transferrable between spouses. Because the tax credit rates jump substantially after passing a monetary threshold, it is most likely the case that one spouse claims all of the tax credits and the other spouse claims none.[6] We therefore expect, as far as tax records are concerned, the number of donors more accurately reflects the total number of households who donate, rather than the number of individuals.

There are several unique features of donations data based on tax records. First, we cannot identify the charity to which donations have been made. For example, donating to an arts organization is equivalent to donating to a food bank or a church. This could be problematic if some types of donations are sensitive to community composition and others are not. Donations also include those made to large, international organizations, which again may not be sensitive to the composition of a local community.

Second, because data on donations are based on tax records, only donations reported on an individual's tax return are counted, and only for individuals who file a tax return. According to documentation accompanying the charitable donors' data, 66% of Canadians filed taxes in 1991, which climbed to 74% in 2006. This may not be a substantial issue, however, because of the tax treatment of donations discussed above: some individuals who do not file a tax return may have a spouse who does,

[5] In dividing total contributions derived from tax records by a measure of the adult population, we assume that people who do not file a tax return have a contribution of zero. Alternatively, this measure could simply be interpreted as tax-receipted donations per person.

[6] This is especially true if one spouse earns no income as the tax credit is non-refundable. The threshold levels and rates vary over time. The thresholds are in the $200 to $250 range, the rate below the threshold is around 15%-17%, and the tax credit rate roughly doubles for all dollars above the threshold.

and that spouse may claim the donation on his/her tax return. We are, therefore, likely picking up more donations than the rate of filing might suggest.[7]

We link data on donations to variables from the 1991, 1996, 2001, and 2006 Census of Canada aggregated to the FSA level. Statistics Canada collects data on a small number of variables such as basic population counts and gender from 100% of the population (the "short form"), and other more detailed information using a mandatory 20% sample (the "long form").[8] Data on ethnic groups, collected through the long form, is based on an individual's "visible minority" status, which assigns people to one of twelve groups based mainly on skin tone. Because some groups are quite small, we regroup individuals into the following categories: Black, East/Southeast Asian, South Asian, Arab/West Asian, Latin American, Other, and not-visible-minority.[9] Religious groups, also collected on the long form, contain a much larger number of disaggregated categories, which we regroup for the same reasons into: Catholic, Christian (other than Catholic), Jewish, Muslim, Other, and not religious.[10] Data for visible minorities are available in the 1996, 2001, and 2006 Censuses, and data for religious groups are available for 1991 and 2001.

We draw all of our control measures from the Census. These include household income, family structure, education, external and internal residential mobility, unemployment, population distribution, language, housing stock, house values, home ownership, and rent. All controls are listed in Table I.

[7] We also control for the fraction of the population that files taxes in all regressions, to make sure we are comparing communities with similar filing rates.
[8] Note, however, that in 2011 the long form portion of the Census was replaced with a voluntary survey of 30% of the population called the National Household Survey. The short form remains mandatory.
[9] The groups available in the Census are: Chinese, South Asian, Black, Filipino, Latin American, Southeast Asian, Arab, West Asian, Korean, Japanese, Visible Minority Not Included Elsewhere, and Multiple Visible Minority. Individuals who report multiple visible minority groups or are not included elsewhere are sorted into the "other" group. Non-visible-minorities include Aboriginal peoples.
[10] The groups are: Catholic ,United, Anglican, Presbyterian, Baptist, Lutheran, Pentecostal, Reform, Orthodox, Jehovah's Witness, Mennonite, Salvation Army, Mormon, Other Christian, Jewish, Muslim, Buddhist, Hindu, Sikh, Other, and No Religion.

Our data are aggregated to the FSA level, which is a relatively small geographic space used to delineate postal routes. An FSA is the first three characters of the 6-digit Canadian postal code, where the first identifies the province (in most cases) and the second identifies the area as urban or rural. There are roughly 1,600 FSAs across Canada, and each is a relatively stable geographic area containing only 7,000 households on average. FSAs in rural locations tend to occupy large areas, while those in urban areas can be very small. Though they are generally stable, some FSAs do change boundaries over time. This occurs mostly where an urban FSA is created out of part of a rural FSA, but urban FSA are occasionally, though seldom, split into 2 or more urban FSAs. We refer to these as emerging FSAs. Our solution to this was to regroup emerging FSAs back into their old boundaries, and use those boundaries for all years. A detailed explanation of this procedure is available in Appendix B.[11]

IV.B – Sample

Our sample universe consists of all urban FSAs between 1991 and 2006, the years when both donations and Census data are available.[12] There are 19,668 FSA-year observations over that time period, or 1,269 FSAs. From this universe, we drop 1,159 observations (5.9%) where one of the key Census measures contained missing data; 1,048 further observations (5.3%) from FSAs that are missing donations data in one of the Census years; a final 353 observations (1.8%) that do not have a link to Census data in at least one year. After these exclusions, we are left with 17,108 FSA-year observations on charitable donations. Finally, a small number of emerging FSAs were regrouped with other urban FSAs, leaving a final sample of 17,071 FSA-year observations.

Because Census data are only available in 1991, 1996, 2001, and 2006, whereas donations data are available for all years, we linearly interpolate Census measures between Census years. Visible

[11] For example, splitting an urban FSA into two but maintaining the same label for one of them, we might observe what appears to be large population drops or changes in other variables. But, this would simply be a product of redrawing boundaries. By regrouping FSAs back into their own boundaries, we avoid such issues.
[12] This sample restriction also excludes FSAs that were regrouped back into rural FSAs, as explained in Appendix B.

minority information was not collected in 1991, so we therefore do not interpolate this measure between 1991 and 1996. Likewise, religion information was not collected in 1996 or 2006, so we do not interpolate between 2001 and 2006 for this measure. Because visible minority and religion data do not fully overlap, we use different samples to analyze ethnic and religious diversity. To study ethnic diversity, we use 12,056 FSA-year observations between 1996 and 2006. To study religious diversity, we use 11,033 FSA-year observations between 1991 and 2001.

IV.C - Summary Statistics

In Table I, Panel A, we present means of donation-related variables. Average donations per adult (converted to constant year 2000 Canadian Dollars) increased by 79% between 1991 and 2006, with most of the growth occurring between 1996-2006. On the other hand, the fraction of households who make any donation falls by roughly 8 percentage points over the same period.

In Table I, Panel B, we summarize Census information. Our key measure of diversity is the FI, which measures the probability that any two randomly selected individuals are in different groups. In 1996 there was on average a 22% chance of two people being from different visible minority groups, which climbs to 28% by 2006. There is much more diversity among religious groups: in 1991 there was a 53% chance on average that individuals belong to different religious groups, which rose to 57% by 2001. While the baseline level of diversity is much higher in terms of religion, growth in diversity is higher in terms of visible minority status.

We also present statistics showing changes over time in control measures that are related to diversity and donations. Some noteworthy changes are that average household income grows by roughly $5600, the fraction of the population who are immigrants grows by 4 percentage points, the fraction with a university education grows by 7 percentage points, and housing value grows by roughly $56,000.

In Table II we take a closer look at the distribution of donations and diversity. In Panel A, we report the overall distribution of each variable, pooling together FSAs over time. The overall mean level of donations is roughly $205 and is quite variable, with the 10th percentile average donation of about $55, and the 90th percentile of $364. The visible minority FI standard deviation of 0.218 is roughly the size of its mean, 0.254. Religious FI has a slightly smaller standard deviation, but it is less than half the size of its mean.

Panels B and C of Table II examine the distributions of these variables between and within FSAs. It is clear from comparing Panels B and C to Panel A that there is substantial variation between communities. The within-FSA standard deviations are much smaller than the between-FSA standard deviations. It is also interesting, but perhaps not surprising given the short period of our sample, that the diversity measures in do not show a large amount of variation over time.

To help visualize diversity in Canada, Figure I shows the spatial distribution of ethnic diversity in the Golden Horseshoe (the populated area around Lake Ontario, including Toronto).[13] Prior to compiling the Figure, we grouped all FSAs into quintiles based on their FI, and represented by the different colors. The delineated areas in the Figure are FSAs, and darker shades of yellow represent more diverse areas. The most diverse communities are those located near Toronto; as one moves farther away from the Greater Toronto Area (GTA), communities become more homogeneous. In similar maps not reported, for other cities we do notice variance in this pattern across city size and geographic location in Canada.

In Table III we present data on the demographic shifts over time. Recall that the FI is the sum of the squared visible minority or religion shares. Panel A shows baseline shares in 1996 and the change in the shares over 10 years for visible minority groups. Clearly the largest group is non-visible-minorities with an 85.47% share. East/Southeast Asian is the next largest with 6.43%. South Asians

[13] To save space we only present this Figure for ethnic diversity. Graphs for religious diversity are available upon request.

are roughly 3% of the population, Blacks are 2.6%, and other groups are smaller. The largest visible minority groups are also the fastest growing: the East/Southeast Asian group increases its population share by roughly 32%, and the South Asians increase their share by about 67%. Column 3 reports how many of the FSAs in the sample experience growth in each of the groups listed. Generally speaking, about 60% to 70% of FSAs in the sample have growing visible minority shares. Offsetting this growth is a shrinking non-visible-minority group: they lose 5.6% of their share and only 12.5% of FSAs see growth in this group over time.

Religious groups do not move as uniformly. Catholics are the largest group with 45% of the population in 1991, which shrinks slightly over the subsequent 10 years. Combined, all other Christian religions make up 35.76% of the population in 1991, which also shrinks over time. On the other hand, individuals claiming no religion, who comprise 13.72% of the population in 1991, increase their share over time. Perhaps the most telling statistic is that 91.03% of all FSAs in the sample increase their share of individuals reporting no religion.

Table IV presents the mean relationship between diversity and donations. The first three columns break up the visible minority FI into three quantiles and recomputes the means from Table I. We see donations are higher and more people donate in more ethnically diverse FSAs. A similar pattern is observed in columns 4-6, which separate the data by religious diversity. However, changes in means of the other variables across the quantiles suggest that this may not be a causal relationship, in particular because income is also higher in diverse neighborhoods. What is likely the case here is that more diverse neighborhoods are also the major urban centers like Toronto, Montreal, and Vancouver, which will have more diverse and wealthier populations. We control for these factors in the regression analysis below.

V – Results

In next two subsections we first look at ethnic diversity, then religious diversity, both using the Fragmentation Index of diversity. In the third subsection we reconsider these results with a different index meant to capture concentration or polarization of communities.

V.A – Ethnic Diversity

In Table V we present regressions of average donations on diversity using various specifications that add increasing amounts of control variables, and then use squared shares instead of the FI. Column 1 is a simple OLS regression of donations on visible minority FI without controls (except year effects), which we use a baseline for comparison. As we saw in the summary statistics, there is a positive relationship between diversity and donations in this simple regression. The coefficient on FI measures the effect of moving from complete homogeneity (FI = 0) to complete heterogeneity (FI = 1). Column 2 adds a set of control variables from the Census; this changes the sign of the coefficient from positive to negative. Our preferred specification is in column 3, which adds FSA fixed effects to the control measures in the previous specification. Estimates from this specification imply that an increasing of 0.1 in the FI visible minority diversity measure lowers the average donation per adult by about $27 (that is, 271.02 times 0.1). This represents a 14 percent drop in average donations per adult, which we consider to be a substantial effect. To put this into perspective between 1996 and 2006 ethnic diversity in Canada increased by 0.06 points, which our results suggests lowered giving in urban areas by eight percent.

In column 4, we generalize the specification to allow the squared shares to enter separately into the regression. These coefficients are interpreted as the change in a particular group's willingness to donate when the share of its own group in the population increases from zero to 100%. Identifying the squared shares separately is more difficult when using fixed effects since, as the summary statistics suggested, they do not vary substantially over time. For this reason, few of these coefficients are statistically significant. Two notable exceptions are that an increase of 10 percentage points in the

share of non-minorities increases donations by $111 for this group, and a 10-point increase in the share Black increases donations by $390.[14] On the other hand, other visible minority groups display group aversion. A 10 percentage point increase in the East Asian group reduces donations by roughly $111. Others are not statistically significant. Therefore, while the result from column 3 suggests that on average groups are more willing to donate when their group share rises, not all groups display the same pattern.

In columns 5 and 6 we check the robustness of our results to the linear interpolation between Census years. Recall that for visible minorities the Census is only observed in 1996, 2001, and 2006. Values in other years are interpolated. When we restrict the sample to only years when the Census data are observed, we get very similar results, though less statistically significant in general. We are thus confident that our results are not driven by the linear interpolation procedure.

Digging deeper into what might be driving the diversity effect, in Table VI we break the sample into quantiles based on household income and university education then analyze those subsamples separately. Columns 1 to 3 show that while the diversity effect is negative for all income quantiles, the strongest effect occurs in the richest FSAs, though these results are not statistically significant.[15] Table VI also reports on subsamples of the data based on the fraction of individuals in the FSA with a university education. We see that the effect is highest in communities where university education is low.

Tables VII and VIII repeat the previous two tables using the fraction of households that donate as the dependent variable. In Table VII, our preferred specification is column 3, which reports

[14] While the coefficient on share Black appears large relative to the overall mean donation, it would be more appropriate to compare to the mean among Black individuals in the sample. Due to the aggregated nature of our data, we are not able to compute the average donation among Black individuals in the sample. Thus, it is unclear whether this coefficient is large or small.

[15] There are several possible explanations for this. The first is simply that wealthy individuals donate more to charity and are more likely to give, which creates greater ability to reduce giving.

coefficients from regressions of fraction of households who donate on the visible minority FI, a set of Census controls, year effects, and FSA fixed effects. Here we find no statistically significant effect. Breaking out the FI into squared shares, we see that a 10 percentage point increase in the Black share increases probability of donation by about 18 percentage points, and a 10 percentage point increase in the Other share increases probability of donation by about 81 percentage points. Other coefficients are statistically insignificant.

Table VIII breaks the sample into quantiles based on household income and education. The most notable result in this table is that increasing the FI by 0.1 leads to a 3.3 percentage point drop in the fraction of households who donate in FSAs with low levels of university education. This is consistent with the result for donations reported in Table VI.

Overall, the results indicate that on average, charitable giving is sensitive to the demographic composition of the community. We find evidence that the propensity to donate and the amount of the donation are sensitive to the ethnic makeup of the community, though not all groups are sensitive in the same way. Indeed, some groups actually donate *less* when their group share increases. On average, however, the population does show group affinity.

V.B – Religious Diversity

Table IX reports the results of regressions where both average donations and fraction of households who donate are regressed on diversity measures. For brevity, we report only the results from our preferred specifications, which include fixed FSA effects and Census controls. Using the FI as our diversity measure, we find that increasing religious diversity by 0.1 reduces average donations per adult by $20, but this coefficient is imprecisely measured. Using squared shares instead of the FI,

we find that Catholics have a statistically significant positive group affinity. Though none of the coefficients on other groups are statistically significant, some are positive and some are negative.[16]

In Table IX we also report that the fraction of households who donate is relatively insensitive to religious fragmentation. In specifications that use squared group shares separately, we find that a 0.1 increase in the non-religious population leads to a 15.2 percentage point drop in non-religious household donations, and a similar increase the fraction of Others lowers Other household donations by 7 percentage points. A 0.1 increase in the share Christian, on the other hand, decreases donations by 6 percentage points. Again, not all others display a group affinity, but on average the increasing diversity reduces the fraction of households who donate by a small amount.

In Table X, we break up the sample by income and education quantiles and estimate models with donations per adult as the dependent variable. Though coefficients are generally not significant, the pattern is that more high income and high education neighborhoods have stronger responses to increased religious diversity. In Table XI we find no real evidence that the diversity effect varies across income and education groups.

To this point we have estimated the effect of ethnic and religious diversity in separate specifications, the primary reason being data limitations. To the extent that these two measures are correlated, part of the observed effect of ethnic diversity may actually be a religious effect, and vice versa. To explore this possibility, in Table XII we estimate specifications with both measures of diversity. For this exercise we use only data from 1996-2001, the time period when both visible minority and religion data are available. In columns 1 and 2 we use the new sample to estimate our preferred fixed effects specification with ethnic and religious diversity entering separately, for

[16] We also generated estimates based on two alternative groupings of religions. In the first, we simply joined Catholics with the Christian group. In the second, we decompose Christians into finer groups, and also regroup the other religions. Results and descriptions of the new groups are in Appendix Tables A.1 and A.2. The coefficient on FI remains negative, but the magnitude is stronger when Catholics are grouped with Christians.

comparison purposes. In column 3, we include both diversity measures in the regression. When both are included, we find that a 0.1 unit increase in ethnic diversity reduces donations by $48, whereas a 0.1 unit increase in religious diversity reduces donations by $11, though the latter is not statistically significant. Comparing to columns 1 and 2, we see that the ethnic diversity coefficient is higher, but the religion coefficient is significantly smaller in magnitude. Thus, while the effect of each measure on donations partly reflects the effect of the other, each continues to exert an independent effect on donations.

V.C – Diversity or Polarization?

While our model motivates our use of the FI, we estimate models with an alternative measure of community diversity frequently found in the literature called the RQ index (Montalvo & Reynal-Querol, 2002), which is defined as:

$$RQ_{jt} = 1 - \sum_{k=1}^{K} \left(\frac{0.5 - share_{kjt}}{0.5} \right)^2 share_{kjt}.$$

Whereas the FI measures fragmentation, RQ measures *polarization*. The difference is best illustrated by example. Suppose there are three ethnic groups in the population. FI takes a maximum when the population is divided equally among the groups, whereas RQ takes a maximum when the population is divided equally among only two of the groups. The distinction between fractionalization and polarization could prove important if it is really two opposing groups that matter, rather than diversity spread over many groups.

Despite the differences in interpretation, both measures are highly correlated at low values of the FI, not correlated at middle values, and negatively correlated at high values. Thus, relatively homogenous societies that become more diverse also initially become more polarized, but highly diverse societies that become more diverse can become less polarized.

The results of regressions with the RQ index are presented in Table XIII. Using the visible minority sample in Panel A, we estimate that ethnic polarization also reduces average charitable donations per adult. A 0.1 change in this index reduces donations by roughly $17. Note that this index is not in the same scale as the FI, so the coefficients are not directly comparable. Nevertheless, the effect is in the same direction, which is not surprising because at low levels of the FI, the two measures are highly correlated. Similar to prior results, polarization does not have a statistically significant effect on the fraction of households who donate.

In Panel B, we show that an increase in religious polarization by 0.1 reduces donations by $13. By contrast, more polarized communities are estimated to increase the probability of donation slightly. A 0.1 increase in the RQ index increases the fraction of households who donate by 1 percentage point. This result is in direct contrast to the regressions using FI, but are not surprising since at high values of the FI the two measures are negatively correlated. A more polarized community in this case is a less fragmented one, so to the extent that it is fragmentation that matters, the opposite sign is expected.

VII – Conclusion

In this paper we examine the relationship between ethnic diversity, religious diversity, and charitable donations. Previous literature has shown that publicly provided goods can be lower in jurisdictions that are more heterogeneous along these dimensions. Our results confirm this finding in the case of privately provided public goods, in particular private charity. We find that the average donation per adult in our sample drops by $27 per year when the ethnic FI increases by 0.1 points. This adds up to a substantial drop in the level of this public good. This effect is mainly driven by non-minorities, who contribute $9 less for each percentage point their group share drops, and Blacks, who contribute $39 less. The average effect of ethnic diversity on donations occurs most strongly in high income, and in low education neighborhoods. We find no evidence that ethnic diversity affects donations per household on average.

We also estimate that more religious diversity might also lower contributions. We find significant evidence that Catholics are more willing to donate when their group share rises in the population. The effect of religious diversity on donations per adult is highest in high income and highly educated neighborhoods, though these estimates are less precise than the estimates based on ethnic diversity.

Our results imply that the recent and continuing demographic changes across North America and Europe may have a significant and sizable impact on charitable services provided through voluntary contributions of individuals. As communities grow more diverse, charity revenues may fall. This raises further public policy concerns, especially in urban areas, as religious and ethnic diversity inevitably grow.

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Table I - Sample Means of Key Variables Over Time

	Year			
	1991	1996	2001	2006
Panel A: Donation Variables				
Average Donation (Year 2000 $)	157.78	174.15	216.83	281.96
Fraction of Households who Donate	0.525	0.483	0.462	0.450
Average Age of Donors	47.370	49.982	51.507	52.109
Median Income of Donors (Year 2000 $)	38938.60	39173.30	41094.02	43122.90
Panel B: Census Variables				
Visible Minority Fragmentation Index		0.223	0.251	0.284
Religion Fragmentation Index	0.528		0.573	
Household Income (Year 2000 $)	59274.27	55348.73	61479.10	64872.96
Immigrants	0.200	0.214	0.224	0.238
1-Parent Families	0.144	0.160	0.170	0.172
Highest Level of Schooling High School	0.463	0.469	0.526	0.531
Highest Level of Schooling University	0.186	0.209	0.219	0.252
Unemployed	0.087	0.084	0.059	0.052
Interprovincial Migrants Last 5 Years	0.041	0.034	0.033	0.029
Interprovincial Migrants Last Year	0.012	0.011	0.010	0.009
External Migrants Last 5 Years	0.047	0.044	0.044	0.049
External Migrants Last Year	0.011	0.010	0.013	0.012
Population under 14	0.198	0.196	0.184	0.171
Population 15-19	0.067	0.065	0.066	0.066
Population 55-64	0.089	0.086	0.093	0.112
Population 65+	0.110	0.124	0.131	0.138
Speak English at Home	0.678	0.686	0.742	0.674
Housing Stock Built 1991-2001	0.000	0.085	0.149	0.140
Average Number of Rooms in Dwelling	5.97	6.09	6.23	6.34
Fraction of Dwellings Owned	0.590	0.607	0.634	0.663
Average Value of Dwelling (Year 2000 $)	204024.10	181465.50	181454.40	259971.70
Average Rent (Year 2000 $)	762.92	696.11	704.67	706.85
Number of FSAs	1003	1096	1096	1096

Notes: Numbers based on authors' calculations. All monetary figures are expressed in year 2000 Canadian Dollars. Fragmentation Index is one minus the sum of the squared shares of each group in the population. Average donation is the donation per individual over 15+ years of age.

Table II - Distribution of Diversity and Donations

	Mean	SD	Percentiles				N
		10	25	50	75	90	
Panel A: Overall							
Average Donation	205.18	199.59	55.22	98.78	164.67	250.08	364.29	17071
Fraction of Households Donating	0.474	0.141	0.300	0.375	0.463	0.572	0.663	17071
Visible Minority Fragmentation Index	0.254	0.218	0.024	0.066	0.180	0.417	0.599	12056
Religion Fragmentation Index	0.553	0.198	0.167	0.525	0.629	0.680	0.724	11033
Panel B: Between FSA							
Average Donation		203.07	51.52	96.22	164.01	247.50	364.93	1096
Fraction of Households Donating		0.143	0.298	0.372	0.467	0.578	0.670	1096
Visible Minority Fragmentation Index		0.203	0.017	0.039	0.135	0.333	0.547	1096
Religion Fragmentation Index		0.207	0.129	0.468	0.612	0.669	0.715	1003
Panel C: Within FSA							
Average Donation		83.580	-50.303	-18.895	-2.160	14.786	59.225	17071
Fraction of Households Donating		0.0382	-0.0412	-0.0236	-0.0066	0.0180	0.0473	17071
Visible Minority Fragmentation Index		0.0265	-0.0274	-0.0104	0.0001	0.0113	0.0311	12056
Religion Fragmentation Index		0.0162	-0.0187	-0.0075	0.0008	0.0091	0.0186	11033

Notes: "Overall" uses the pooled sample of FSAs over time. "Between FSA" takes the average for each FSA across time. Within FSA takes the deviation of each FSA from its mean. The statistics for average donations and fraction of households who donate are computed using all data between 1991 and 2006. The distribution of the visible minority Fragmentation Index is computed with data from 1996-2006 because no data is available in 1991 for this measure. For the religion Fragmentation Index, data from 1991-2001 is used because there is no data in 2006.

Table III - Visible Minority and Religion Groups Over Time

	1996	Percentage Point Change 2006-1996	% of FSAs with Increasing Share 1996-2006
Visible Minority			
Not Visible Minority	85.47%	-5.64	12.50%
East/Southeast Asian	6.43%	2.05	73.45%
Chinese	3.97%	1.01	64.05%
Filipino	1.07%	0.58	60.95%
Southeast Asian	0.80%	0.17	55.93%
Korean	0.30%	0.28	52.37%
Japanese	0.30%	0.02	41.61%
South Asian	3.02%	1.88	66.97%
Black	2.58%	0.51	69.53%
Other	1.40%	0.61	76.37%
Latin American	0.82%	0.41	71.99%
Other	0.59%	0.21	60.49%
Arab/West Asian	1.10%	0.59	63.96%
	1991	Percentage Point Change 2001-1991	% of FSAs with Increasing Share 1991-2001
Religion			
Catholic	45.05%	-1.90	42.47%
Christian	35.76%	-4.68	17.15%
United	10.26%	-1.73	18.25%
Anglican	7.91%	-1.38	19.74%
Other Christian	5.34%	0.38	56.93%
Presbyterian	2.44%	-1.05	6.98%
Baptist	2.19%	0.05	53.24%
Lutheran	2.29%	-0.30	28.22%
Orthodox	1.78%	0.10	49.25%
Pentecostal	1.42%	-0.31	29.81%
Jehovah's Witness	0.60%	-0.08	40.78%
Mennonite	0.50%	-0.08	25.12%
Reform	0.38%	-0.15	14.86%
Mormon	0.33%	-0.02	40.38%
Salvation Army	0.33%	-0.11	20.04%
No Religion	13.72%	3.88	91.03%
Jewish	1.67%	-0.10	44.87%
Muslim	1.26%	1.39	74.78%
Other	2.54%	1.42	65.50%
Buddhist	0.82%	0.53	67.40%
Hindu	0.76%	0.55	51.25%
Sikh	0.69%	0.44	39.78%
Other	0.26%	-0.11	22.23%

Notes: Names of visible minority and religious groups are the names given in the Canada Census. The first column is the population share for a particular group, and the second column is the change in the share over 10 years. There is no data on visible minorities in 1991, and no data on religion in 1996 or 2006.

Table IV - Relation Between Diversity, Donations, and Census Variables

	Ethnic Diversity			Religious Diversity		
	Low	Med	High	Low	Med	High
Panel A: Donation Variables						
Average Donation	120.58	255.66	256.35	88.16	200.59	234.61
Fraction Donor	0.412	0.488	0.470	0.427	0.523	0.492
Average Age of Donors	53.16	52.05	49.81	50.36	50.76	48.66
Median Income of Donors	37582.74	42280.79	41774.84	37363.41	40355.01	41106.89
Panel B: Census Variables						
FI (Col 1-3 Vismin, Col 4-6 Relig)	0.029	0.139	0.476	0.282	0.612	0.700
Household Income	52790.75	62698.77	64054.57	49968.09	60191.69	62557.30
Immigrants	0.053	0.152	0.385	0.094	0.171	0.341
1-Parent Families	0.156	0.165	0.177	0.168	0.146	0.165
Highest Level of School HS	0.544	0.526	0.483	0.480	0.500	0.471
Highest Level of School Uni	0.152	0.219	0.275	0.174	0.188	0.250
Unemployed	0.068	0.056	0.066	0.091	0.067	0.076
Interprovincial Migrant < 5 Years	0.024	0.039	0.031	0.016	0.044	0.043
Interprovincial Migrant < 1 Year	0.008	0.012	0.010	0.005	0.013	0.013
External Migrant < 5 Years	0.007	0.025	0.084	0.017	0.026	0.082
External Migrant < 1 Year	0.002	0.007	0.021	0.005	0.007	0.020
Population under 14	0.186	0.183	0.182	0.186	0.201	0.190
Population 15-19	0.071	0.066	0.064	0.067	0.068	0.063
Population 55-64	0.104	0.097	0.092	0.095	0.090	0.084
Population 65+	0.141	0.138	0.120	0.126	0.131	0.113
Speak English at Home	0.543	0.804	0.723	0.310	0.914	0.810
Housing Stock Built 1991-2001	0.124	0.124	0.138	0.066	0.075	0.094
Average Rooms in Dwelling	6.34	6.40	6.01	5.80	6.46	5.98
Fraction of Dwellings Owned	0.680	0.654	0.595	0.571	0.673	0.578
Average Value of Dwelling	125762	190880	260264	129548.90	177962.20	239045.90
Average Rent	558.12	689.92	797.13	587.82	720.17	808.28
Number of FSAs	4019	4019	4018	3678	3678	3677

Notes: FI=Fragmentation Index. Low, Med, and High are based on terciles of the Fragmentation Index for visible minority and religious groups using all available data pooled across time. Variables are as described in previous tables.

Table V - Effect of Visible Minority Heterogeneity on Average Donation

	Full Sample				Census Years Only	
	(1)	(2)	(3)	(4)	(5)	(6)
Fragmentation Index	**876.53**	**-138.49**	**-271.02**		**-331.66**	
	(121.02)	(65.03)	(109.03)		(141.98)	
% Black	**-1308.54**	103.59	**1133.85**	-84.78	**1169.05**	-107.86
	(288.25)	(162.17)	(364.11)	(375.19)	(422.28)	(544.14)
% Black Squared				**3896.28**		***3903.54***
				(1899.24)		(2113.91)
% East Asian	**-503.83**	43.82	**682.17**	***386.38***	**816.28**	392.36
	(103.38)	(100.94)	(179.55)	(222.93)	(268.38)	(350.97)
% East Asian Squared				**-1113.94**		**-897.14**
				(314.52)		(374.98)
% South Asian	**-706.69**	106.52	**1106.51**	***392.63***	**1067.14**	308.08
	(163.70)	(113.45)	(149.00)	(237.31)	(197.91)	(309.46)
% South Asian Squared				-549.66		-482.10
				(358.38)		(457.26)
% Arab West Asian	**-1345.70**	-456.98	182.38	-466.31	419.50	-353.40
	(416.53)	(340.91)	(332.50)	(436.30)	(434.81)	(542.41)
% Arab West Asian Squared				-2145.27		-1158.56
				(3123.09)		(4260.00)
% Other	**-2568.65**	506.08	**1339.44**	70.49	**1077.48**	-15.21
	(551.67)	(340.13)	(388.64)	(403.13)	(505.23)	(531.26)
% Other Squared				6768.63		2948.67
				(4531.80)		(5434.55)
% White Squared				**920.95**		**942.14**
				(237.62)		(286.07)
Household Income		**123.82**	**79.74**	**80.80**	**94.43**	**95.30**
		(9.40)	(14.93)	(14.74)	(21.73)	(21.62)
R2	0.093	0.75	0.936	0.937	0.928	0.929
F	45	79	42	41	34	32
N	12056	12056	12056	12056	3288	3288
Census Controls	No	Yes	Yes	Yes	Yes	Yes
FSA Effects	No	No	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Bolded coefficients are significant at the 5% level; bold-italic coefficients are significant at the 10% level. Full sample includes data from all years 1996-2006, including linearly interpolated census data between years. Census years includes data from 1996, 2001, and 2006 only. Visible minority shares were demeaned prior to estimation, so the coefficients are interpreted as the effect of increasing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables.

Table VI - Effect of Visible Minority Heterogeneity on Average Donations by Income and Education Tercile

	Income Tercile			University Education Tercile		
	Low	Middle	Top	Low	Middle	Top
	(1)	(2)	(3)	(4)	(5)	(6)
Fragmentation Index	-141.70	-230.44	-293.84	**-607.45**	-205.74	-184.70
	(120.81)	(160.10)	(184.86)	(187.40)	(140.71)	(169.32)
% Black	**1234.57**	565.51	1101.33	**2154.50**	**1104.95**	-59.50
	(513.37)	(346.68)	(671.34)	(452.91)	(329.69)	(723.42)
% East Asian	**414.20**	**608.75**	577.84	**1433.70**	**655.74**	467.55
	(168.34)	(188.41)	(396.42)	(283.00)	(155.96)	(293.65)
% South Asian	**713.11**	**750.56**	**1286.25**	**814.93**	**1074.41**	**1085.06**
	(188.26)	(195.59)	(295.93)	(215.30)	(169.18)	(270.22)
% Arab West Asian	-198.06	542.83	188.73	646.67	-195.00	128.22
	(356.87)	(346.64)	(662.82)	(504.36)	(371.51)	(515.33)
% Other	**1489.80**	**1302.05**	637.28	**1447.25**	**1086.44**	1069.63
	(321.72)	(604.75)	(1077.53)	(404.41)	(434.10)	(841.67)
Household Income	8.50	25.36	**81.56**	3.01	**43.80**	**84.42**
	(8.08)	(17.34)	(19.37)	(5.75)	(10.60)	(17.99)
R2	0.895	0.94	0.924	0.946	0.91	0.929
F	13	22	32	22	22	26
N	4026	4015	4015	4026	4015	4015
Census Controls	Yes	Yes	Yes	Yes	Yes	Yes
FSA Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Bolded coefficients are significant at the 5% level; bold-italic coefficients are significant at the 10% level. Income and Education terciles are based on 2001 data, and applied to all years. Income terciles are based on average household income, education terciles are based on the fraction of individuals with a university degree. Visible minority shares were demeaned prior to estimation, so the coefficients are interpreted as the effect of increaseing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables.

Table VII - Effect of Visible Minority Heterogeneity on Fraction of Households that Donate

	Full Sample				Census Years Only	
	(1)	(2)	(3)	(4)	(5)	(6)
Fragmentation Index	**0.39**	-0.04	-0.02		0.01	
	(0.08)	(0.02)	(0.04)		(0.05)	
% Black	**-0.50**	**0.29**	**0.48**	***0.17***	**0.43**	0.16
	(0.21)	(0.07)	(0.12)	(0.10)	(0.13)	(0.11)
% Black Squared				**1.76**		**1.97**
				(0.80)		(0.89)
% East Asian	**-0.26**	0.02	0.03	0.07	0.05	***0.15***
	(0.09)	(0.03)	(0.06)	(0.07)	(0.07)	(0.08)
% East Asian Squared				-0.19		-0.20
				(0.13)		(0.14)
% South Asian	-0.04	**0.09**	**0.40**	**0.30**	**0.35**	**0.29**
	(0.13)	(0.03)	(0.05)	(0.10)	(0.06)	(0.11)
% South Asian Squared				0.10		0.12
				(0.18)		(0.19)
% Arab West Asian	-0.40	**-0.29**	-0.01	0.02	-0.01	0.02
	(0.30)	(0.09)	(0.16)	(0.14)	(0.17)	(0.15)
% Arab West Asian Squared				-1.32		-0.67
				(1.32)		(1.29)
% Other	**-2.61**	0.17	**0.31**	-0.26	0.19	-0.25
	(0.42)	(0.15)	(0.15)	(0.16)	(0.16)	(0.17)
% Other Squared				**8.13**		**7.15**
				(1.74)		(1.90)
% White Squared				-0.01		-0.06
				(0.10)		(0.11)
Household Income		**0.01**	**0.00**	**0.00**	**0.00**	**0.00**
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
R2	0.078	0.903	0.988	0.989	0.985	0.985
F	194	487	174	155	76	69
N	12056	12056	12056	12056	3288	3288
Census Controls	No	Yes	Yes	Yes	Yes	Yes
FSA Effects	No	No	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Bolded coefficients are significant at the 5% level; bold-italic coefficients are significant at the 10% level. Full sample includes data from all years 1996-2006, including linearly interpolated census data between years. Census years includes data from 1996, 2001, and 2006 only. Visible minority shares were demeaned prior to estimation, so the coefficients are interpreted as the effect of increasing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables.

Table VIII - Effect of Visible Minority Heterogeneity on Fraction of Households that Donate by Income and Education Tercile

	Income Tercile			University Education Tercile		
	Low	Middle	Top	Low	Middle	Top
	(1)	(2)	(3)	(4)	(5)	(6)
Fragmentation Index	0.02	-0.04	0.05	**-0.33**	-0.03	0.07
	(0.06)	(0.08)	(0.06)	(0.07)	(0.05)	(0.07)
% Black	***0.45***	***0.36***	0.15	**0.95**	**0.36**	-0.02
	(0.25)	(0.20)	(0.17)	(0.18)	(0.13)	(0.17)
% East Asian	0.03	0.07	0.03	**0.72**	**0.21**	-0.11
	(0.09)	(0.10)	(0.12)	(0.13)	(0.09)	(0.08)
% South Asian	**0.20**	**0.35**	**0.51**	**0.27**	**0.42**	**0.29**
	(0.10)	(0.09)	(0.06)	(0.08)	(0.07)	(0.10)
% Arab West Asian	-0.04	0.25	-0.26	0.12	0.25	-0.28
	(0.17)	(0.19)	(0.17)	(0.23)	(0.16)	(0.19)
% Other	***0.33***	0.14	0.31	**0.54**	0.13	-0.03
	(0.18)	(0.32)	(0.25)	(0.21)	(0.20)	(0.24)
Household Income	0.01	0.00	0.00	0.00	**0.01**	**0.00**
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
R2	0.98	0.977	0.981	0.981	0.986	0.99
F	83	87	103	85	71	85
N	4026	4015	4015	4026	4015	4015
Census Controls	Yes	Yes	Yes	Yes	Yes	Yes
FSA Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Bolded coefficients are significant at the 5% level; bold-italic coefficients are significant at the 10% level. Income and Education terciles are based on 2001 data, and applied to all years. Income terciles are based on average household income, education terciles are based on the fraction of individuals with a university degree. Visible minority shares were demeaned prior to estimation, so the coefficients are interpreted as the effect of increaseing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables.

Table IX - Effect of Religious Heterogeneity on Donation Outcomes

	Average Donations		Fraction of Households Donating	
	(1)	(2)	(3)	(4)
Fragmentation Index	-201.93		-0.03	
	(132.78)		(0.05)	
% Catholic	-302.08	-229.00	-0.07	**0.26**
	(251.01)	(282.61)	(0.07)	(0.07)
% Catholic Squared		**690.00**		-0.05
		(269.92)		(0.09)
% Christian	-276.14	-99.17	**-0.15**	**0.33**
	(179.55)	(304.81)	(0.06)	(0.09)
% Christian Squared		-341.44		**-0.60**
		(448.06)		(0.14)
% Muslim	**-837.92**	-790.22	**-0.26**	0.11
	(337.69)	(536.18)	(0.09)	(0.12)
% Muslim Squared		-607.03		0.08
		(783.29)		(0.28)
% Jewish	-1157.12	-881.40	0.06	**0.45**
	(934.34)	(996.42)	(0.12)	(0.16)
% Jewish Squared		-330.40		-0.10
		(1622.56)		(0.20)
% Other	-266.01	***-588.24***	**0.21**	**0.33**
	(188.13)	(342.37)	(0.07)	(0.13)
% Other Squared		805.44		**0.66**
		(505.42)		(0.20)
% No Religion Squared		-120.98		**1.52**
		(522.44)		(0.20)
Household Income	**128.28**	**127.68**	0.00	***0.00***
	(18.66)	(18.93)	(0.00)	(0.00)
R2	0.924	0.924	0.987	0.988
F	29	27	174	163
N	11033	11033	11033	11033
Census Controls	Yes	Yes	Yes	Yes
FSA Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes

Notes: Bolded coefficients are significant at the 5% level, and bold-italic coefficients are significant at the 10% level. Religion shares were demeaned prior to estimation, so the coefficients are interpreted as the effect of increasing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables.

Table X - Effect of Religious Heterogeneity on Average Donation by Income and Education Tercile

	Income Tercile			University Education Tercile		
	Low	Middle	Top	Low	Middle	Top
	1	2	3	4	5	6
Fragmentation Index	-10.91	90.71	-720.36	63.83	-108.38	-332.07
	(64.37)	(116.84)	(441.13)	(43.92)	(100.94)	(331.98)
% Catholic	50.62	-12.53	-770.36	-103.88	-123.61	-390.89
	(136.98)	(160.78)	(573.94)	(69.60)	(172.87)	(557.84)
% Christian	-123.88	-210.45	-533.46	**-200.82**	***-296.03***	-217.99
	(118.87)	(158.78)	(449.21)	(65.54)	(169.57)	(419.96)
% Muslim	69.08	324.29	**-1973.25**	-173.82	125.70	**-1177.98**
	(308.36)	(256.90)	(908.56)	(174.33)	(361.23)	(557.38)
% Jewish	-570.54	-528.93	-1871.99	-1834.86	-623.40	-1400.33
	(373.13)	(483.08)	(1515.55)	(1126.66)	(569.20)	(1108.28)
% Other Religions	-204.02	-31.28	-617.52	-55.69	-11.01	-921.14
	(187.71)	(125.74)	(472.86)	(95.27)	(134.23)	(622.22)
Household Income	-3.16	4.30	**138.47**	5.56	**33.55**	**145.75**
	(8.41)	(7.95)	(21.69)	(4.38)	(8.36)	(22.23)
R2	0.94	0.957	0.909	0.97	0.939	0.912
F	16	21	20	22	17	20
N	3707	3520	3806	3410	3652	3971
Census Controls	Yes	Yes	Yes	Yes	Yes	Yes
FSA Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes

Bolded coefficients are significant at the 5% level, and bold-italic coefficient are significant at the 10% level. Income and Education terciles are based on 2001 data, and applied to all years. Income terciles are based on average household income, education terciles are based on the fraction of indiiduals with a university degree. Religion shares were demeaned prior to esimation, so the coefficients are interpreted as the effect of increasing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables.

Table XI - Effect of Religious Heterogeneity on Fraction of Households Donating by Income and Education Tercile

	Income Tercile			University Education Tercile		
	Low	Middle	Top	Low	Middle	Top
	1	2	3	4	5	6
Fragmentation Index	0.07	0.01	0.02	0.13	0.02	-0.08
	(0.07)	(0.10)	(0.14)	(0.09)	(0.07)	(0.08)
% Catholic	-0.07	-0.04	***0.24***	-0.07	***-0.19***	0.05
	(0.08)	(0.13)	(0.13)	(0.11)	(0.11)	(0.10)
% Christian	-0.10	-0.22	-0.01	-0.04	**-0.36**	-0.03
	(0.08)	(0.13)	(0.12)	(0.10)	(0.10)	(0.10)
% Muslim	-0.05	-0.21	-0.09	***-0.33***	***-0.31***	-0.11
	(0.13)	(0.17)	(0.18)	(0.20)	(0.16)	(0.12)
% Jewish	-0.05	0.00	0.16	-1.44	0.08	0.14
	(0.19)	(0.25)	(0.17)	(1.49)	(0.54)	(0.13)
% Other Religions	0.05	0.14	**0.56**	-0.02	0.05	***0.31***
	(0.15)	(0.12)	(0.12)	(0.13)	(0.11)	(0.16)
Household Income	**0.02**	**0.02**	0.00	0.00	**0.01**	0.00
	(0.01)	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)
R2	0.982	0.978	0.979	0.979	0.987	0.99
F	88	77	86	60	89	107
N	3707	3520	3806	3410	3652	3971
Census Controls	Yes	Yes	Yes	Yes	Yes	Yes
FSA Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes

Bolded coefficients are significant at the 5% level, and bold-italic coefficients are significant at the 10% level. Income and Education terciles are based on 2001 data, and applied to all years. Income terciles are based on average household income, education terciles are based on the fraction of indiiduals with a university degree. Religion shares were demeaned prior to esimation, so the coefficients are interpreted as the effect of increasing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables.

Table XII - Effect of Religious and Visible Minority Heterogeneity on Donation Outcomes

	Years 1996-2001		
	(1)	(2)	(3)
Visible Minority Fragmentation Index	**-362.04**		**-476.25**
	(176.24)		(205.16)
% Black	591.47		897.35
	(581.81)		(625.68)
% East Asian	**960.57**		**1088.67**
	(477.20)		(502.24)
% South Asian	**610.65**		**1343.91**
	(286.20)		(587.72)
% Arab West Asian	596.16		1074.52
	(571.83)		(672.98)
% Other	522.09		***908.30***
	(474.79)		(493.00)
Religion Fragmentation Index		***-397.99***	-111.36
		(222.31)	(202.60)
% Catholic		-405.37	-189.03
		(428.05)	(383.04)
% Christian		-369.32	-118.05
		(289.18)	(270.41)
% Muslim		-607.20	-737.22
		(545.61)	(644.83)
% Jewish		-2399.66	-2314.59
		(1877.12)	(1770.39)
% Other Religions		-211.56	***-1085.83***
		(345.65)	(597.07)
Household Income	**120.46**	**120.98**	**123.51**
	(22.54)	(23.18)	(22.93)
R2	0.95	0.95	0.95
F	15	17	15
N	6018	6018	6018
Census Controls	Yes	Yes	Yes
FSA Effects	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes

Notes: Regression contains data from 1996-2001, the overlapping years of religion and visible minority data. Bolded coefficients are significant at the 5% level, and bold-italic coefficients are significant at the 10% level. Religion and Visible Minority shares were demeaned prior to estimation, so the coefficients are interpreted as the effect of increasing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables.

Table XIII - Effect of RQ Measure on Average Donations and Fraction of Households who Donate

Panel A	Visible Minority		***Panel B***	Religion	
	Donation Amount	Fraction Donating		Donation Amount	Fraction Donating
	(1)	(2)		(3)	(4)
RQ	**-174.50**	-0.03	RQ	**-127.20**	**0.09**
	(52.58)	(0.02)		(58.37)	(0.03)
% Black	**970.02**	**0.49**	% Catholic	-256.55	0.00
	(330.63)	(0.10)		(222.28)	(0.06)
% East Asian	**599.49**	0.03	% Christian	-189.33	**-0.15**
	(171.74)	(0.06)		(169.21)	(0.06)
% South Asian	**993.11**	**0.39**	% Muslim	**-972.52**	**-0.20**
	(137.31)	(0.04)		(363.82)	(0.09)
% Arab West Asian	-80.63	-0.01	% Jewish	-1118.96	0.08
	(288.01)	(0.14)		(950.12)	(0.11)
% Other	**1071.30**	**0.31**	% Other Religions	-277.61	**0.26**
	(336.63)	(0.13)		(180.15)	(0.07)
Household Income	**80.33**	**0.00**	Household Income	**127.26**	0.00
	(14.96)	(0.00)		(18.50)	(0.00)
R2	0.936	0.988	R2	0.924	0.987
F	43	175	F	29	176
N	12056	12056	N	11033	11033
Census Controls	Yes	Yes	Census Controls	Yes	Yes
FSA Effects	Yes	Yes	FSA Effects	Yes	Yes
Year Effects	Yes	Yes	Year Effects	Yes	Yes

Notes: Bolded coefficients are significant at the 5% level, and bold-italic coefficients are significant at the 10% level. RQ is a measure of polarization of groups, as discussed in Montalvo & Reynal-Querol (2002). Religion and Visible Minority Shares were demeaned prior to estimation, so the coefficients are interpreted as the efect of increasing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables.

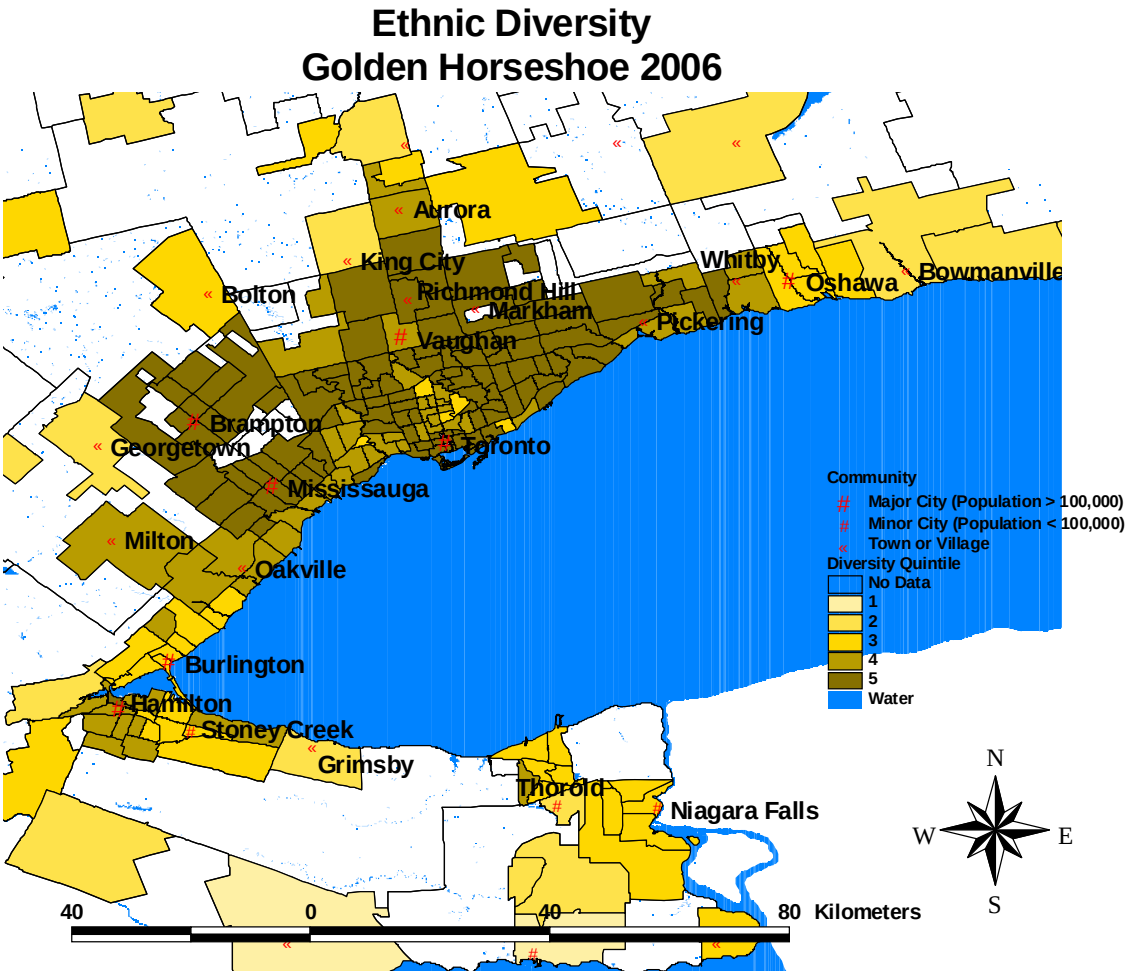

Figure I – Ethnic Diversity in the Golden Horseshoe 2006

Appendix A: Tables for Alternative Religion Groupings

Table A.1 - Effect of Religious Heterogeneity on Donation Outcomes with Coarser Groups

	Average Donations		Fraction of Households Donating	
	(1)	(2)	(3)	(4)
Fragmentation Index	**-495.53**		**-0.28**	
	(199.18)		(0.06)	
% Christian	**-645.22**	-332.71	**-0.36**	**0.14**
	(271.93)	(221.99)	(0.08)	(0.07)
% Christian Squared		**3124.93**		***-0.31***
		(837.40)		(0.16)
% Muslim	**-660.76**	-677.77	-0.16	-0.01
	(326.57)	(452.89)	(0.10)	(0.12)
% Muslim Squared		**-3673.74**		0.31
		(978.44)		(0.36)
% Jewish	-1221.58	-1210.70	-0.01	**0.36**
	(910.14)	(947.62)	(0.12)	(0.17)
% Jewish Squared		-1600.31		-0.04
		(1317.97)		(0.22)
% Other	-312.25	**-928.15**	**0.17**	**0.28**
	(199.02)	(413.81)	(0.07)	(0.13)
% Other Squared		**-1947.96**		**0.78**
		(811.34)		(0.25)
% No Religion		**-3619.57**		**1.64**
		(1258.20)		(0.27)
Household Income	**129.08**	**128.67**	**0.00**	**0.00**
	(18.20)	(17.83)	(0.00)	(0.00)
R2	0.924	0.926	0.988	0.988
F	28	25	182	167
N	11033	11033	11033	11033
Census Controls	Yes	Yes	Yes	Yes
FSA Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes

Notes: Bolded coefficients are significant at the 5% level, and bold-italic coefficients are significant at the 10% level. Religion shares were demeaned prior to estimation, so the coefficients are interpreted as the effect of increasing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables. In this Table, Christian = Catholic, United, Anglican, Presbyterian, Baptist, Lutheran, Orthodox, Pentecostal, Jehovah's Witness, Mennonite, Reform, Mormon, Salvation Army, Other Christian; Other = Buddhist, Hindu, Sikh, Other. Remaining categories are singularly defined.

Table A.2 - Effect of Religious Heterogeneity on Donation Outcomes with Finer Groups

	Average Donations		Fraction of Households Donating	
	(1)	(2)	(3)	(4)
Fragmentation Index	-206.61		**-0.11**	
	(139.88)		(0.05)	
% Catholic	-247.39	-234.37	-0.08	**0.23**
	(240.99)	(273.16)	(0.07)	(0.07)
% Catholic Squared		**529.97**		**-0.20**
		(267.24)		(0.09)
% Non-Conservative Christian	***-298.90***	-240.68	***-0.11***	**0.31**
	(154.56)	(288.12)	(0.06)	(0.10)
% Non-Conservative Christian Squared		-218.20		**-0.55**
		(584.83)		(0.18)
% Conservative Christian	-222.04	-209.09	**-0.31**	-0.10
	(333.23)	(475.65)	(0.11)	(0.12)
% Conservative Christian Squared		318.33		**0.80**
		(447.89)		(0.21)
% Jewish	-1083.67	-887.02	0.08	**0.39**
	(942.65)	(975.29)	(0.11)	(0.16)
% Jewish Squared		-398.78		-0.18
		(1647.61)		(0.18)
% Muslim/Sikh	***-416.57***	-663.15	-0.02	0.13
	(227.34)	(476.95)	(0.08)	(0.12)
% Muslim/Sikh Squared		621.64		**0.76**
		(601.88)		(0.28)
% Buddhist/Hindu	-346.11	-588.48	***0.24***	***0.34***
	(333.11)	(556.41)	(0.13)	(0.18)
% Buddhist/Hindu Squared		850.80		0.84
		(2514.59)		(0.81)
% Other	303.68	-14.68	0.08	0.05
	(257.61)	(336.41)	(0.11)	(0.14)
% Other Squared		4327.31		**5.43**
		(2961.83)		(1.25)
% No Religion		-172.59		**1.47**
		(575.70)		(0.19)
Household Income	**128.44**	**128.33**	**0.00**	**0.00**
	(19.08)	(19.07)	(0.00)	(0.00)
R2	0.924	0.924	0.987	0.988
F	28	25	169	158
N	11033	11033	11033	11033
Census Controls	Yes	Yes	Yes	Yes
FSA Effects	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes

Notes: Bolded coefficients are significant at the 5% level, and bold-italic coefficients are significant at the 10% level. Religion shares were demeaned prior to estimation, so the coefficients are interpreted as the effect of increasing the share on donations when the share is at its mean. F is the F-statistic of overall significance of the model. Census controls are all variables listed in the previous tables. In this Table, Non-Conservative Christian = United, Anglican, Presbyterian, Baptist, Lutheran; Conservative Christian = Orthodox, Pentecostal, Jehovah's Witness, Mennonite, Reform, Mormon, Salvation Army; Muslim/Sikh = Muslim, Sikh; Buddhist/Hindu = Buddhist, Hindu; Other = Other Christian, Other. All other groups are singularly defined.

Appendix B: Method for Regrouping FSA Boundaries

Our analysis uses the Forward Sortation Area (FSA) to approximate an individual's community or local neighborhood. We chose this area partly because data is readily available for this level of aggregation, and partly because with an average of 7000 people inside its boundaries, it is a reasonable proxy for the group of people with whom an individual interacts regularly.

The boundaries of each FSA are drawn by Canada Post to accommodate mail delivery, and over time they are occasionally redrawn as the local populations change. This occurs mostly as parts of rural areas grow large enough to require their own FSA, at which point Canada Post will reconfigure the boundaries. While less common, an urban FSA can become large enough to split into two urban FSAs, or shrink enough to be absorbed into an existing FSA.

Changes in FSA boundaries pose a problem for our analysis mainly because they might lead to "false" population or demographic changes. For example, suppose that within an FSA all of the visible minorities live in a rapidly expanding sub-area of the FSA. Suppose also that this sub-area grows large enough over time to become its own FSA. Upon separation, it will seem as though the original FSA becomes completely homogeneous (i.e. it loses all of its visible minorities), even though no individuals have left the original boundaries of that area and the demographics may not have changed by much. Unchecked, these boundary changes might cause spurious results in our regression models – especially our preferred specification, which uses FSA fixed effects.

We solve this problem using the method described below. We refer to new FSAs that appear over time as "emerging" FSAs, and FSAs that disappear as "retiring" FSAs. Our solution to the problem of changing boundaries is to combine each emerging FSA with the FSA it emerged from, and each retiring FSA with the FSA it retires into. The FSAs we use to combine with the emerging and retiring FSAs are identified by hand using various methods, such as: GIS software to overlay FSA

boundary maps from different years; Google Maps to identify other FSAs in close proximity; coordinates of the centroid of each FSA to determine the proximity between any pair of FSAs.[17] We only recombine emerging and retiring FSAs from 1996 forward, because we do not have FSA boundary maps or data on rural FSAs for 1991. Before applying our sample exclusions, in our tax data we identified 119 emerging FSAs and 4 retiring FSAs between 1991 and 1996. After applying our sample exclusions, we are left with 84 emerging FSAs and no retiring FSAs. We drop these 84 FSAs from the data for years 1991 to 1995, and do not use them for religion regressions in 1996. Note that this has no impact on the Visible Minority analysis because it uses only data from 1996 forward. We suspect that this would have a minimal impact on the Religion regressions also, because most emerging FSAs tend to come from rural areas, which would be dropped from the analysis anyway.[18]

In our tax data, we have identified 159 emerging FSAs between 1996 and 2006, and 5 retiring FSAs. [19] Of the emerging FSAs, 142 are linked back to a rural area, and are not considered as part of our sample universe because we do not analyze rural FSAs. We therefore have to worry only about 17 emerging FSAs and 5 retiring FSAs. After applying our sample restrictions, we have only 5 remaining emerging FSAs and no retiring FSAs. These emerging FSAs are combined with the urban FSA from which it emerged. As noted in the main text, there are 17,108 FSA-year observations prior to the recombining emerging FSAs into their old boundaries, and 17,071 observations after.

[17] We created a file that links an FSA to its group based on this hand-checking procedure, which is available upon request.
[18] Recall that because we have no data on rural FSAs in 1991, we are unable to map these emerging FSAs back into the rural locations.
[19] Our sample excludes all rural FSAs and those that have missing census data in at least one year, missing tax data in at least one year, or do not link to the census at in at least one year.